

Plant and Animal Resources and Ecological Condition of the Hanging Woman Basin in Big Horn County, Montana and Sheridan County Wyoming

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and
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EXECUTIVE SUMMARY

The biological resources of southeastern Montana are not well documented. Recent proposals to develop large portions of this landscape for the production of coal-bed methane have focused attention on the potential effects of such development on the region's wildlife, vegetation, and ecosystems. This report provides an initial overview of biological resources within the Hanging Woman Creek Basin of southeastern Montana and, in general, the middle portion of the Tongue River Basin in Montana and Wyoming.

This overview focused on animal and plant Species of Concern and plant communities, but also included other animal species observed or expected in the Basin. We conducted three brief field surveys, focused on the Forks Ranch Unit of the Padlock, and assembled previously collected data from the Montana Natural Heritage Program and the Wyoming Natural Diversity Database, as well as data from other sources. Though examples of all habitats were included in the survey, an exhaustive search of appropriate habitat for particular sensitive species was not conducted.

The most important animal species present within the Hanging Woman Basin from a conservation perspective are the Black-tailed Prairie Dog and the Greater Sage Grouse. Other animal Species of Concern documented in or near the basin include Northern Grasshopper Mouse (*Onychomys leucogaster*), Merriam's shrew (*Sorex merriami*), Burrowing Owls, Greater Short-horned Lizards (*Phrynosoma hernandesi*), Northern Leopard Frog (*Rana pipiens*), Great Plains Toad (*Bufo cognatus*) and Plains Spadefoot (*Spea bombifrons*). Extensive sage habitats in the Hanging Woman Basin potentially provide habitat for a number of sage obligate bird species, including Sage Thrasher (*Oreoscoptes montanus*), Sage Sparrow (*Amphispiza belli*), Ferruginous Hawk (*Buteo regalis*), Brewer's Sparrow (*Spizella breweri*), Lark Bunting (*Calamospiza melanocorys*), and Loggerhead Shrike (*Lanius ludovicianus*). The Milk Snake (*Lampropeltis triangulum*), a species of concern for both Montana and Wyoming, potentially occurs along sandstone outcrops, ridges and escarpments associated with Ponderosa pine communities.

We documented 13 plant associations on the ranch, though approximately 73 community types are known to occur in this ecoregional Section. Greater community diversity almost certainly exists in the basin, particularly in wetland or riparian areas and badlands, which could not be adequately inventoried in this brief assessment. Three plant taxa of global significance have been documented in this basin or the Upper Tongue River drainage. Barr's milkvetch (*Astragalus barrii*) and Woolly twinpod (*Physaria didymocarpa* var. *lanata*) tend to occupy high knobs and outcrops, while Nuttall's desert-parsley (*Lomatium nuttallii*) grows on mid- to lower-slopes, especially along drainages.

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